

REMARKS

In view of the following discussion, the Applicants submit that none of the claims now pending in the application are anticipated or obvious under the provisions of 35 U.S.C. §§ 102 and 103. The Applicants herein amend claims 1, 7 and 12. Support for the amendments may be found on at least para. [0016]. Thus, the Applicants believe that all of these claims are now in allowable form.

I. REJECTION OF CLAIMS 1-3, 7-9, AND 12-14 UNDER 35 U.S.C. § 102

The Examiner rejected claims 1-3, 7-9, and 12-14 as being anticipated by Charny et al. (US Patent 6,778,492, issued August 17, 2004) hereinafter referred to as "Charny." In response, the Applicants respectfully traverse the rejection.

Charny teaches fast rerouting traffic around a failed node or switch using backup tunnels. (See Charny, col. 5, ll. 38-41). More than one backup tunnel may be provided to guarantee enough bandwidth in the event of a failure. (See Charny, col. 5, ll. 59-64). The back up tunnels are pre-established. (See Charny, col. 4, ll. 30-33, emphasis added). More generally, M number of backup tunnels may protect N number of paths, wherein all N paths may fail simultaneously and all be protected. (See Charny, col. 6, ll. 57-68).

The Examiner's attention is directed to the fact that Charny fails to teach or suggest a switching device or a method for connecting, as needed, an unconnected spare interface on a first router in the IP network to a re-configurable transport network which provides connectivity to an unconnected spare interface on a second router in the IP network upon detection of a pre-designated condition in the IP network, as positively claimed by the Applicants. For example, Applicants' claims 1, 7, and 12 positively recite:

1. A method of operating an Internet Protocol (IP) network comprising a plurality of routers, each router further comprising a plurality of interfaces, the method comprising the steps of:
connecting, as needed, an unconnected spare interface on a first router in the IP network to a re-configurable transport network which provides connectivity to an unconnected spare interface on a second router in the IP network upon detection of a pre-designated

condition in the IP network; and

switching traffic designated for a primary interface at the first router to the spare interface at the first router in the IP network, thereby causing the traffic to flow across a spare capacity on the re-configurable transport network between the spare interface on the first router and the spare interface on the second router in the IP network. (Emphasis added).

7. A device-readable medium storing program instructions for performing a method of operating a router in an Internet Protocol (IP) network, the router further comprising a routing table and a plurality of interfaces including an unconnected spare interface providing connectivity through a re-configurable transport network to an unconnected spare interface on a second router in the IP network, the method comprising the steps of:

receiving a signal indicating a pre-designated condition in the IP network;

connecting, as needed, said unconnected spare interface on said router in the IP network to said re-configurable transport network which provides connectivity to said unconnected spare interface on said second router in the IP network upon receiving said signal indicating a pre-designated condition in the IP network; and

reconfiguring the routing table in the router so as to switch traffic designated for a primary interface at the router to the spare interface at the router, thereby causing the traffic to flow across a spare capacity on the re-configurable transport network between the spare interface on the router and the spare interface on the second router in the IP network. (Emphasis added).

12. An Internet Protocol (IP) router comprising:

a plurality of interfaces including at least one primary interface and an unconnected spare interface providing connectivity, as needed, through a re-configurable transport network to an unconnected spare interface on a second router in an IP network, wherein said unconnected spare interface is connected to said unconnected spare interface on said second router in the IP network upon receiving a signal indicating a pre-designated condition in the IP network; and

a routing table that is reconfigured so as to switch traffic designated for a primary interface at the router to the spare interface at the router, thereby causing the traffic to flow across a spare capacity on the re-configurable transport network between the spare interface on the router and the spare interface on the second router in the IP network. (Emphasis added).

In one embodiment, Applicants' invention discloses a switching device or a method for connecting, as needed, an unconnected spare interface on a first

router in the IP network to a re-configurable transport network which provides connectivity to an unconnected spare interface on a second router in the IP network upon detection of a pre-designated condition in the IP network. The spare interfaces can be connected via a re-configurable transport network ("RTN") to form new links at the IP layer as needed and then returned to their inactive, unconfigured state when no longer needed. (See e.g., Applicants' specification, para. [0016]).

Charny fails to teach or suggest Applicants' invention. Specifically, Charny fails to teach or suggest a switching device or a method for connecting, as needed, an unconnected spare interface on a first router in the IP network to a re-configurable transport network which provides connectivity to an unconnected spare interface on a second router in the IP network upon detection of a pre-designated condition in the IP network. The Examiner noted in the Advisory Action that the claims do not specify that "the connection is dynamic, or not in advance or pre-determined." (See Advisory Action, dated 11/27/07). Responsive to the Examiner, the Applicants believe that the amended claim language now specifies that the connection "dynamic or not in advance or pre-determined" by reciting that the connection is on an "as needed" basis with "unconnected" spare interfaces.

In contrast, Charny is directed to fast rerouting traffic around a failed node or switch using pre-established backup tunnels. (See Charny, col. 4, ll. 30-33). Consequently, unlike the Applicants' invention that teaches connecting, as needed, an unconnected spare interface upon detection of a pre-designated condition in the IP network, Charny teaches that the backup tunnels are preferably assigned in advance of failure. Therefore, the Applicants submit that independent claims 1, 7 and 12 are not anticipated by the teachings of Charny and, as such, fully satisfy the requirements of 35 U.S.C. § 102 and are patentable thereunder.

In addition, dependent claims 2, 3, 8, 9, 13, and 14 depend from independent claims 1, 7 and 12, respectively, and recite additional limitations. As such, and for the exact same reason set forth above, the Applicants submit that

claims 2, 3, 8, 9, 13, and 14 are also patentable over Charny and respectfully request the rejection be withdrawn.

II. REJECTION OF CLAIMS 4-6, 10, 11, 15, AND 16 UNDER 35 U.S.C. § 103

The Examiner rejected claims 4-6, 10, 11, 15, and 16 as being unpatentable over Charny in view of Wing So (US patent application publication 2002/0109879, published August 15, 2002) hereinafter referred to as "Wing So". Applicants respectfully traverse the rejection.

Wing So discloses network configuration and control information encoded and used to modulate data carried on an optical signal. (See Wing So, Abstract).

The Examiner's attention is directed to the fact that Charny and Wing So (either singly or in any permissible combination) fail to teach or suggest a switching device or a method for providing connectivity, as needed, through a re-configurable transport network to an unconnected spare interface on a second router in an IP network, as positively claimed by the Applicants.

As discussed above, Charny fails to teach or suggest a switching device or a method for connecting, as needed, an unconnected spare interface on a first router in the IP network to a re-configurable transport network which provides connectivity to an unconnected spare interface on a second router in the IP network upon detection of a pre-designated condition in the IP network. This deficiency is not bridged by the teaching of Wing So. Wing So only discloses network configuration and control information encoded and used to modulate data carried on an optical signal. As such, the combination of Charny and Wing So would not make obvious Applicants' independent claims 1, 7, and 12.

In addition, dependent claims 4-6, 10, 11, 15, and 16 depend from independent claims 1, 7, and 12, respectively and recite additional limitations. As such, and for the exact same reason set forth above, the Applicants submit that claims 4-6, 10, 11, 15, and 16 are also patentable over Charny and Wing So and respectfully request the rejection be withdrawn.

CONCLUSION

Thus, the Applicants submit that all of these claims now fully satisfy the requirements of 35 U.S.C. §§ 102, and 103. Consequently, the Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring the issuance of a final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Kin-Wah Tong, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully Submitted,

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